

Claims:

1. A communications circuit comprising a transceiver having a receiver and a transmitter, wherein a transmitter signal is processed with a receiver signal to generate an out-of-phase signal used in the receiver to reduce interference.
2. The communications circuit of claim 1 further comprising a Digital-to-Analog Converter (DAC) in the transmitter coupled to receive the transmitter signal.
3. The communications circuit of claim 2 further comprising an Analog-to-Digital Converter (ADC) in the receiver to generate the receiver signal.
4. The communications circuit of claim 3 further comprising:
a first antenna coupled to an output of the DAC to provide signals for Bluetooth and IEEE 802.11b; and
a second antenna coupled to an input of the ADC to receive Bluetooth and IEEE 802.11b signals.
5. The communications circuit of claim 4 wherein the first antenna is placed orthogonal to the second antenna.

6. A device comprising:

an Analog-to-Digital Converter (ADC) to convert data received in a receiver path;

a Digital-to-Analog Converter (DAC) to convert data to be transmitted in a transmitter path;

a cancellation circuit having a first input coupled to an input of the DAC and a second input coupled to an output of the ADC, wherein the cancellation circuit injects an out-of-phase signal into the receiver path to cancel at least a portion of interference from the transmitter path.

7. The device of claim 6 further comprising a subtractor circuit having a first input coupled to an input of the receiver path and a second input coupled to an output of the cancellation circuit.

8. The device of claim 7 further comprising a first antenna coupled to an output of the DAC to provide signals for Bluetooth and IEEE 802.11b.

9. The device of claim 8 further comprising a second antenna coupled to an input of the ADC to receive Bluetooth and IEEE 802.11b signals.

10. The device of claim 9 wherein the first antenna is placed orthogonal to the second antenna.

11. The device of claim 10 wherein the subtractor circuit has the first input coupled to the second antenna.

12. A system comprising:

a transmit path to receive transmitter digital data to convert to a transmitter analog signal;

a receive path to receive a receiver analog signal to convert to receiver digital data; and

a cancellation circuit having inputs to receive the transmitter digital data and the receiver digital data and generate an out-of-phase signal to inject into the receiver path to cancel at least a portion of interference from the transmitter path.

13. The system of claim 12 further comprising a subtractor circuit having a first input coupled to an output of the cancellation circuit and a second input coupled to receive the receiver analog signal, and an output to provide the out-of-phase signal to inject into the receiver path.

14. The system of claim 12 wherein the transmit path further includes a Digital-to-Analog Converter (DAC) having an input coupled to receive the transmitter digital data and having an output to provide the transmitter analog signal.

15. The system of claim 12 wherein the receive path further includes an Analog-to-Digital Converter (ADC) having an input coupled to receive the receiver analog signal and having an output to provide the receiver digital data.

15. The system of claim 12 wherein the receive path further includes:

a first antenna coupled to an output of the DAC to provide Bluetooth and IEEE 802.11b signals; and

a second antenna coupled to an input of the ADC to receive signals for Bluetooth and IEEE 802.11b.

16. The system of claim 15 wherein the first antenna is placed orthogonal

to the second antenna.

17. A method comprising:

converting a first digital value to an analog signal in a transmitter;

converting a signal received by a receiver that contains a portion of the analog signal as interference to a second digital value; and

processing the first and second digital values to generate a signal that mitigates the interference in the signal converted by the receiver.

18. The method of claim 17, wherein processing the first and second digital values further comprises generating a signal that is out-of-phase to the portion of the analog signal contained in the signal received by the receiver.

19. The method of claim 18 further comprising subtracting the signal that is out-of-phase from the signal received by the receiver.

20. The method of claim 19 further comprising receiving the signal in the receiver orthogonal to the analog signal in the transmitter.